

Application No.: 10/820,389

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Docket No.: 542262000200

REMARKS

Claims 1-5, 9-15, 18-22, and 24-27 stand rejected and claims 6-8, 16-17, and 23 are objected to in the present Office Action. Claims 1-27 are pending in the present application. Applicant respectfully requests reconsideration of the present application in view of the foregoing remarks.

35 USC 103 rejection of claims 1-5, 9-15, 18-22, and 24-27

In Sections 1-2 of the Office Action, claims 1-5, 9-15, 18-22, and 24-27 are rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 3,992,951 (Erspamer et al.) in view of U.S. Patent No. 4,912,662 (Butler et al.).

Erspamer et al. discloses measuring the amount of tilt of a device about a reference axis 27. As the cylindrical housing 11 of the device is rotated (or tilted) about the reference axis 27, the proportion of each of electrodes 14 and 15 immersed in a fluid changes, causing the potential to change accordingly:

As the accelerometer is tilted or rotated clockwise about the reference axis 27, the proportion of electrode 15 which is immersed in electrolytic fluid 12 will increase while proportion of electrode 14 immersed in electrolytic fluid 12 will correspondingly decrease. The potential, therefore, at electrode 17 will therefore shift from the null value and an indication thereof will be generated at the output of amplifier 26. Similarly, an equal but opposite shift from the null potential will occur for a counterclockwise rotation or tilt about the reference axis 27. (Emphasis added) Col. 2, lines 53-63; Figure 1.

The housing 53 differs from that of FIG. 1 in that the common electrode 54 is affixed to the interior surface of the outer circumference while the remaining electrodes 51, 52 and 55 are affixed to the interior surface of the inner circumference of the housing. It should be apparent, however, that the two configurations are equivalent with regard to operation and that the housing may encompass still different structures which operate in a similar manner. (Emphasis added) Col. 4, lines 3-11.

However, the Erspamer et al. device is not capable of measuring the amount of tilt and the direction of the tilt when not about the reference axis 27. For example, if the housing 11 is tilted

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toward the amplifier 26 (as shown in FIG. 1), the proportion of electrodes 14 and 15 immersed in the fluid relative to each other would remain constant. The potential, therefore, will not shift from the null value (or previous value) and the output signal will remain unchanged. This means that even though a new tilt and direction has occurred, the device cannot sense this change. At most, Erspamer et al. discloses sensing the amount of tilt in a clockwise direction or the amount of tilt in a counterclockwise direction about the reference axis 27.

In contrast, each of independent claims 1, 11, 21, and 24 recites, among other things, processing signals or measured electrical characteristics to determine an overall angle of inclination and the direction of inclination. The angle of inclination need not be about a reference axis, such as in Erspamer et al. The direction of inclination also need not be about a reference axis, such as in Erspamer et al. The configuration of Applicant's device permits the actual angle of inclination and the direction of that inclination to be measured for all directions relative to a reference plane.

The Examiner states that "it would have been obvious to one with ordinary skill in the art at the time of the invention was made to add the display and indicators disclosed by Butler et al. to the E_{OUT} disclosed by Erspamer et al. in order to tell how much a measured surface is inclined and in what direction." Applicant respectfully disagrees. Since Erspamer et al. is not capable of measuring the overall angle of inclination and the direction of that inclination, as recited in claims 1, 11, 21, and 24, combining Butler et al.'s display with Erspamer et al. would not result in a device that can actually measure the overall amount of tilt and the direction of the tilt and to display indications of both.

It is respectfully submitted that Erspamer et al. and Butler et al., alone or in combination, do not disclose or suggest the combination of elements recited in each of claims 1, 11, 21, and 24. Claims 2-5, 9-10, 12-15, 18-20, 22, and 25-27, which depend from one of claims 1, 11, 21, and 24, are also allowable over Erspamer et al. and Butler et al., alone or in combination, for at least the same reasons discussed above.

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Objection of claims 6-8, 16-17, and 23

In Sections 3-4 of the Office Action, claims 6-8, 16-17, and 23 are objected to for depending from rejected base claims, but which would be allowable if rewritten into independent form including all of the limitations of the base claims and any intervening claims.

Applicant thanks the Examiner for suggesting claim amendment for allowance. However, it is respectfully submitted that claims 6-8, 16-17, and 23 are presently in condition for allowance for at least the reasons discussed above.

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CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 542262000200. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: July 5, 2006

Respectfully submitted,

By


Katherine D. Lee

Registration No.: 44,865

MORRISON & FOERSTER LLP

425 Market Street

San Francisco, California 94105-2482

(415) 268-6983

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